

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An optical fiber whose chromatic dispersion is [-12]-20 ps • nm⁻¹ • km⁻¹ or more but -3 ps • nm⁻¹ • km⁻¹ or less at all of the wavelengths in a range of 1300 nm to 1600 nm,

wherein a dispersion slope of said optical fiber is positive at, at least, one wavelength in the range of 1300 nm to 1600 nm, and

wherein the cutoff wavelength is not more than 1330 nm.

2. (Currently Amended) An optical fiber according to Claim 1,

wherein said chromatic dispersion is -12 ps • nm⁻¹ • km⁻¹ or more but -4 ps • nm⁻¹ • km⁻¹ or less.

3. (Currently Amended) An optical fiber according to Claim 1,

wherein said chromatic dispersion is -20 ps • nm⁻¹ • km⁻¹ or more but -3 ps • nm⁻¹ • km⁻¹ or less at all of the wavelengths in the range of 1250 nm to 1650 nm.

4. (Previously Presented) An optical fiber according to Claim 3,

wherein said chromatic dispersion is -16 ps • nm⁻¹ • km⁻¹ or more but -4 ps • nm⁻¹ • km⁻¹ or less.

5. (Previously Presented) An optical fiber according to any of Claims 1, 12, and 13,

wherein the effective area at wavelength of 1550 nm is 40 μm² or more.

6. (Previously Presented) An optical fiber according to any of Claims 1, 12, and 13, wherein the loss increase due to OH group at a wavelength of 1380 nm is $0.1 \text{ dB} \cdot \text{km}^{-1}$ or less.

7. (Previously Presented) An optical fiber according to any of Claims 1, 12, and 13, wherein said optical fiber is provided with (1) a central core region including the center of the optical axis and having a first refractive index, (2) a second core region enclosing the central core region and having a second refractive index which is smaller than the first refractive index, (3) a third core region enclosing the second core region and having a third refractive index which is greater than the second refractive index, and (4) a clad region enclosing the third core region and having a fourth refractive index which is smaller than the third refractive index.

8. (Original) An optical fiber according to Claim 7, wherein said clad region includes an inner clad region having a refractive index smaller than said third refractive index and an outer clad region having a refractive index greater than the refractive index of the inner clad region.

9. (Original) An optical fiber according to Claim 7, wherein the relative refractive index difference of said central core region is 0.4% or more but 0.7% or less with respect to the refractive index of the outermost layer of said clad region.

10. (Original) An optical transmission system comprising:

a transmitting station to send out light signals having wavelengths in the range of 1300 nm to 1600 nm after multiplexing the same;
an optical fiber according to Claim 1 to transmit said light signals; and
a receiving station to receive said light signals and demultiplex the same into their respective wavelengths.

11. (Currently Amended) An optical transmission system according to Claim 10, wherein said a transmitting station sends out light signals having wavelengths in the range of 1250 nm to 1650 nm after further multiplexing ~~the~~ other light signals having wavelengths in the range of 1250 nm to 1300 nm and 1600 nm to 1650 nm, and said optical fiber has a chromatic dispersion of $-20 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or more but $-3 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or less at all of the wavelengths in the range of 1250 nm to 1650 nm.

12. (Previously Presented) An optical fiber whose chromatic dispersion is $-20 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or more but $-3 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or less at all of the wavelengths in the range of 1300 nm to 1600 nm,

wherein the bending loss is not more than 2.4 dB at the wavelength of 1550 nm when said fiber is wound 1 turn about 32 mm diameter mandrel.

13. (Currently Amended) An optical fiber whose chromatic dispersion is $-20 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or more but $-7.1 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or less at all of the wavelengths in the range of 1300 ~~nm~~ to 1600 nm,

wherein a dispersion slope of said optical fiber is positive at, at least, one wavelength in the range of 1300 nm to 1600 nm.

14. (Previously Presented) An optical fiber whose chromatic dispersion is $-20 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or more but $-3 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or less at all of the wavelengths in the range of 1300 nm to 1600 nm,

wherein the effective area at a wavelength of 1550 nm is $40 \mu\text{m}^2$ or more.

15. (Previously Presented) An optical fiber whose chromatic dispersion is $-20 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or more but $-3 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$ or less at all of the wavelengths in the range of 1300 nm to 1600 nm,

wherein the loss increase due to OH group at a wavelength of 1380 nm is $0.1 \text{ dB} \cdot \text{km}^{-1}$ or less.